EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	3	ethernet flow adj identifier packet network security adj processor	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2007/12/05 16:34
L2	102082	ethernet	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2007/12/05 16:38
L3	555	ethernet packet network security adj association	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2007/12/05 16:39
L4	302	3 cryptograph$6	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2007/12/05 16:39
L5	3346	outbound with packet	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2007/12/05 16:40
L6	54	4 outbound with packet	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2007/12/05 16:47
L7	39	6 mac	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2007/12/05 16:48
L8	1260	713/153,151.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2007/12/05 16:48

EAST Search History

L9	2	8 (mac ethernet packet network security adj association).clm.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2007/12/05 16:49

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... Linux special socket for receiving **Ethernet packets** would make ... source of the current **packet**), network service ... of the current host), **cryptographic** functions for ...
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R Friend - Computer, 2004 - ieeexplore.ieee.org
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P Nikander, A Karila - usenix.org
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D Whiting, B Schneier, S Bellovin - Counterpane Internet Security, http://www. counterpane. com/ ..., 2000 - csrc.nist.gov
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RW Younglove - Computing & Control Engineering Journal, 2001 - ieeexplore.ieee.org
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AD Keromytis, J Ioannidis, JM Smith - Global Telecommunications Conference, 1997. GLOBECOM'97., ..., 1997 - ieeexplore.ieee.org
... ENCAP or PFXEY) to negotiate a **security association** with the ... Pentium with a IOMbit/sec **ethernet** card. ... bytes of payload) and different **IPsec** transforms, pinging ...
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R Friend - Computer, 2004 - ieeexplore.ieee.org
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M Barton, D Atkins, J Lee, S Narain, D Ritcherson, ... - Communications, 2002. ICC 2002. IEEE International ..., 2002 - ieeexplore.ieee.org
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... a policy decision as to which **Security Association** (SA), if ... makes sense because of the **Ethernet packet** size limit ... small-**packet** throughput of an **IPsec** system is ...
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... controlled by a "**security association**" that the sender of the **packet** must have ... Mobile IPv6 facilitates node movement from one **Ethernet** segment to ...
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R Canetti, PC Cheng, D Pendarakis, J Rao, P ... - Proceedings of NDSS, 2000 - iplab.aist-nara.ac.jp
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... 100 receives **packets** from the **Ethernet** ports (Gig ... atomic tag that covers the IPSec **Security Association** (SA) for ... tag type with a hashed **flow identifier** for the ...
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1 A flow-based approach to datagram security

Suvo Mittra, Thomas Y. C. Woo

October 1997 **ACM SIGCOMM Computer Communication Review , Proceedings of the ACM SIGCOMM '97 conference on Applications, technologies, architectures, and protocols for computer communication SIGCOMM '97**, Volume 27 Issue 4

Publisher: ACM Press

Full text available: pdf(2.04 MB) Additional Information: full citation, abstract, references, citings, index terms

Datagram services provide a simple, flexible, robust, and scalable communication abstraction; their usefulness has been well demonstrated by the success of IP, UDP, and RPC. Yet, the overwhelming majority of network security protocols that have been proposed are geared towards connection-oriented communications. The few that do cater to datagram communications tend to either rely on long term host-pair keying or impose a session-oriented (i.e., requiring connection setup) semantics.Separately, t ...

2 Wireless communication and networking system implementation: Development of an ASIP enabling flows in ethernet access using a retargetable compilation flow

K. Van Renterghem, P. Demuytere, D. Verhulst, J. Vandewege, Xing-Zhi Qiu

April 2007 **Proceedings of the conference on Design, automation and test in Europe DATE '07**

Publisher: EDA Consortium

Full text available: pdf(125.68 KB) Additional Information: full citation, abstract, references

In this paper we research an FPGA based Application Specific Instruction Set Processor (ASIP) tailored to the needs of a flow aware Ethernet access node using a retargetable compilation flow. The toolchain is used to develop an initial processor design, asses the performance and identify the potential bottlenecks.

A second design iteration results in a fully optimized ASIP with a VLIW instruction set which allows for high degree of parallelism among the functional units inside the ASIP ...

3 Visualizing packet traces

John A. Zinky, Fredric M. White

October 1992 **ACM SIGCOMM Computer Communication Review , Conference proceedings on Communications architectures & protocols SIGCOMM**

'92, Volume 22 Issue 4
Publisher: ACM Press
Full text available: pdf(1.34 MB) Additional Information: full citation, abstract, references, index terms

This paper describes an environment for visualizing packet traces that greatly simplifies troubleshooting protocol implementations. Network management centers routinely collect packet traces to tally traffic statistics and to troubleshoot protocol configuration and implementation problems. Previous efforts have focused on the reliable collection of traces and their statistical interpretation. Display of packet traces was restricted to a textual representation of the raw headers. Our prototy ...

4 Normalizing Traffic Pattern with Anonymity for Mission Critical Applications
Dongxi Liu, Chi-Hung Chi, Ming Li
April 2004 **Proceedings of the 37th annual symposium on Simulation ANSS '04**
Publisher: IEEE Computer Society
Full text available: pdf(136.16 KB) Additional Information: full citation, abstract, index terms

Intruders often want to analyze traffic pattern to getinformation for his some malicious activities inultra-secure network. This paper presents a generalapproach to prevent traffic pattern of IP-based networkfrom being analyzed. It is an isolated scheme which canbe used to prevent traffic analysis in overall network byachieving the same goal in each network segmentindependently. On each network segment,complementary traffic is generated according to its realtraffic, and the combination of these ...

5 Trading packet headers for packet processing
Girish P. Chandranmenon, George Varghese
October 1995 **ACM SIGCOMM Computer Communication Review , Proceedings of the conference on Applications, technologies, architectures, and protocols for computer communication SIGCOMM '95**, Volume 25 Issue 4
Publisher: ACM Press
Full text available: pdf(1.21 MB) Additional Information: full citation, abstract, references, citings, index terms

In high speed networks, packet processing is relatively expensive while bandwidth is cheap. Thus it pays to add information to packet headers to make packet processing easier. While this is an old idea, we describe several specific new mechanisms based on this principle. We describe a new technique, *source hashing*, which can provide $O(1)$ lookup costs at the Data Link, Routing, and Transport layers. Source hashing is especially powerful when combined with the old idea of a *flow I* ...

6 The Click modular router
Robert Morris, Eddie Kohler, John Jannotti, M. Frans Kaashoek
December 1999 **ACM SIGOPS Operating Systems Review , Proceedings of the seventeenth ACM symposium on Operating systems principles SOSP '99**, Volume 33 Issue 5
Publisher: ACM Press
Full text available: pdf(1.46 MB) Additional Information: full citation, abstract, references, citings, index terms

Click is a new software architecture for building flexible and configurable routers. A Click router is assembled from packet processing modules called *elements.* Individual elements implement simple router functions like packet classification, queueing, scheduling, and interfacing with network devices. Complete configurations are built by connecting elements into a graph; packets flow along the graph's edges. Several features make individual elements more powerful and complex configuration ...

7 Scaling security: Design, implementation and evaluation of security in iSCSI-based

network storage systems
Shiva Chaitanya, Kevin Butler, Anand Sivasubramaniam, Patrick McDaniel, Murali Vilayannur
October 2006 **Proceedings of the second ACM workshop on Storage security and survivability StorageSS '06**
Publisher: ACM Press
Full text available: pdf(296.66 KB) Additional Information: full citation, abstract, references, index terms

This paper studies the performance and security aspects of the iSCSI protocol in a network storage based system. Ethernet speeds have been improving rapidly and network throughput is no longer considered a bottleneck when compared to Fibre-channel based storage area networks. However, when security of the data traffic is taken into consideration, existing protocols like IPSec prove to be a major hindrance to the overall throughput. In this paper, we evaluate the performance of iSCSI when deploye ...

Keywords: IPSec, authentication, encryption, iSCSI

8 Trading packet headers for packet processing
Girish P. Chandranmenon, George Varghese
April 1996 **IEEE/ACM Transactions on Networking (TON)**, Volume 4 Issue 2
Publisher: IEEE Press
Full text available: pdf(1.41 MB) Additional Information: full citation, references, citings, index terms, review

9 Mobility support in IPv6
Charles E. Perkins, David B. Johnson
November 1996 **Proceedings of the 2nd annual international conference on Mobile computing and networking MobiCom '96**
Publisher: ACM Press
Full text available: pdf(1.37 MB) Additional Information: full citation, references, citings, index terms

10 Technical papers: DCAP: detecting misbehaving flows via collaborative aggregate policing
Chen-Nee Chuah, Lakshminarayanan Subramanian, Randy H. Katz
October 2003 **ACM SIGCOMM Computer Communication Review**, Volume 33 Issue 5
Publisher: ACM Press
Full text available: pdf(281.15 KB) Additional Information: full citation, abstract, references

This paper proposes a detection mechanism called *DCAP* for a network provider to monitor incoming traffic and identify misbehaving flows without having to keep per-flow accounting at any of its routers. Misbehaving flows refer to flows that exceed their stipulated bandwidth limit. Through collaborative aggregate policing at both ingress and egress nodes, DCAP is able to quickly narrow the search to a candidate group that contains the misbehaving flows, and eventually identify the individua ...

Keywords: flow-level accounting, misbehaving flow detection, traffic policing

11 Design of a high-performance ATM firewall
Jun Xu, Mukesh Singhal
August 1999 **ACM Transactions on Information and System Security (TISSEC)**, Volume 2 Issue 3
Publisher: ACM Press

Full text available: pdf(143.19 KB) Additional Information: full citation, abstract, references, index terms

A router-based packet-filtering firewall is an effective way of protecting an enterprise network from unauthorized access. However, it will not work efficiently in an ATM network because it requires the termination of end-to-end ATM connections at a packet-filtering router, which incurs huge overhead of SAR (Segmentation and Reassembly). Very few approaches to this problem have been proposed in the literature, and none is completely satisfactory. In this paper we present the hardware desig ...

Keywords: TCP/IP, asynchronous transfer mode, firewall, packet filtering, switch architecture

12 Miscellany: Quantum cryptography in practice

Chip Elliott, David Pearson, Gregory Troxel

August 2003 **Proceedings of the 2003 conference on Applications, technologies, architectures, and protocols for computer communications SIGCOMM '03**

Publisher: ACM Press

Full text available: pdf(809.93 KB) Additional Information: full citation, abstract, references, citings, index terms

BBN, Harvard, and Boston University are building the DARPA Quantum Network, the world's first network that delivers end-to-end network security via high-speed Quantum Key Distribution, and testing that Network against sophisticated eavesdropping attacks. The first network link has been up and steadily operational in our laboratory since December 2002. It provides a Virtual Private Network between private enclaves, with user traffic protected by a weak-coherent implementation of quantum cryptogra ...

Keywords: IPsec, cryptographic protocols, error correction, key agreement protocols, privacy amplification, quantum cryptography, quantum key distribution, secure networks

13 Reconsidering fragmentation and reassembly

Girish P. Chandranmenon, George Varghese

June 1998 **Proceedings of the seventeenth annual ACM symposium on Principles of distributed computing PODC '98**

Publisher: ACM Press

Full text available: pdf(1.24 MB) Additional Information: full citation, references, citings, index terms

14 Papers from MC^{2}R open call: An end-system approach to mobility management for 4G networks and its application to thin-client computing

Leo Patanapongpibul, Glenford Mapp, Andy Hopper

July 2006 **ACM SIGMOBILE Mobile Computing and Communications Review**, Volume 10 Issue 3

Publisher: ACM Press

Full text available: pdf(1.48 MB) Additional Information: full citation, abstract, references, index terms

This paper describes work centred around providing greater autonomy for mobile nodes to roam in Mobile IPv6 wireless networks based on a new handoff mechanism. This technique, called the Client-based Handoff, enables mobile nodes to roam in foreign wireless networks without having to be controlled by the network infrastructure. The mechanism incorporates three algorithms: a router advertisement cache, the invocation of TCP mechanisms and techniques to handle subnetwork outages in order to reduce ...

15 DOS protection: DoS protection for UDP-based protocols

Charlie Kaufman, Radia Perlman, Bill Sommerfeld
October 2003 **Proceedings of the 10th ACM conference on Computer and communications security CCS '03**
Publisher: ACM Press
Full text available: pdf(90.91 KB) Additional Information: full citation, abstract, references, index terms

Since IP packet reassembly requires resources, a denial of service attack can be mounted by swamping a receiver with IP fragments. In this paper we argue how this attack need not affect protocols that do not rely on IP fragmentation, and argue how most protocols, e.g., those that run on top of TCP, can avoid the need for fragmentation. However, protocols such as IPsec's IKE protocol, which both runs on top of UDP and requires sending large packets, depend on IP packet reassembly. Photuris, an ea ...

Keywords: DoS, IKE, IPsec, buffer exhaustion, denial of service, fragmentation, network security, protocol design

16 Mobile networking in the Internet
Charles E. Perkins
December 1998 **Mobile Networks and Applications**, Volume 3 Issue 4
Publisher: Kluwer Academic Publishers
Full text available: pdf(166.90 KB) Additional Information: full citation, abstract, references, cited by, index terms

Computers capable of attaching to the Internet from many places are likely to grow in popularity until they dominate the population of the Internet. Consequently, protocol research has shifted into high gear to develop appropriate network protocols for supporting mobility. This introductory article attempts to outline some of the many promising and interesting research directions. The papers in this special issue indicate the diversity of viewpoints within the research community, and it is ...

17 Hiperlan/2 public access interworking with 3G cellular systems
Stephen McCann, Helena Flygare
January 2004 **Wireless Networks**, Volume 10 Issue 1
Publisher: Kluwer Academic Publishers
Full text available: pdf(196.64 KB) Additional Information: full citation, abstract, references, index terms

This paper discusses some of the recent work within the Broadband Radio Access Network (BRAN) project of ETSI (European Telecommunications Standards Institute), regarding the issue of establishing an interworking solution between Hiperlan/2 and 3G cellular systems and introduces the concept of Hiperlan/2 Public Access. So far the BRAN project has identified several fundamentally different types of possible solutions whose differences lie within the level of integration. The most essential requir ...

Keywords: 3G, BRAN, ETSI, Hiperlan/2, WIG, interworking, public access

18 High-speed switch scheduling for local-area networks
Thomas E. Anderson, Susan S. Owicki, James B. Saxe, Charles P. Thacker
November 1993 **ACM Transactions on Computer Systems (TOCS)**, Volume 11 Issue 4
Publisher: ACM Press
Full text available: pdf(2.37 MB) Additional Information: full citation, abstract, references, citings, index terms

Current technology trends make it possible to build communication networks that can support high-performance distributed computing. This paper describes issues in the design of a prototype switch for an arbitrary topology point-to-point network with link

speeds of up to 1 Gbit/s. The switch deals in fixed-length ATM-style cells, which it can process at a rate of 37 million cells per second. It provides high bandwidth and low latency for datagram traffic. In addition, it supports real-time t ...

Keywords: ATM networks, iterative matching, statistical matching, switching scheduling

19 Internet indirection infrastructure

Ion Stoica, Daniel Adkins, Shelley Zhuang, Scott Shenker, Sonesh Surana
April 2004 **IEEE/ACM Transactions on Networking (TON)**, Volume 12 Issue 2
Publisher: IEEE Press

Full text available: pdf(583.64 KB) Additional Information: full citation, abstract, references, citings, index terms

Attempts to generalize the Internet's point-to-point communication abstraction to provide services like multicast, anycast, and mobility have faced challenging technical problems and deployment barriers. To ease the deployment of such services, this paper proposes a general, overlay-based Internet Indirection Infrastructure (*i*3) that offers a rendezvous-based communication abstraction. Instead of explicitly sending a packet to a destination, each packet is associated with an identifier; t ...

Keywords: anycast, indirection, mobility, multicast, network infrastructure, service composition

20 Internet indirection infrastructure

Ion Stoica, Daniel Adkins, Shelley Zhuang, Scott Shenker, Sonesh Surana
August 2002 **ACM SIGCOMM Computer Communication Review , Proceedings of the 2002 conference on Applications, technologies, architectures, and protocols for computer communications SIGCOMM '02**, Volume 32 Issue 4
Publisher: ACM Press

Full text available: pdf(303.69 KB) Additional Information: full citation, abstract, references, citings, index terms

Attempts to generalize the Internet's point-to-point communication abstraction to provide services like multicast, anycast, and mobility have faced challenging technical problems and deployment barriers. To ease the deployment of such services, this paper proposes an overlay-based Internet Indirection Infrastructure (I3) that offers a rendezvous-based communication abstraction. Instead of explicitly sending a packet to a destination, each packet is associated with an identifier; this identifier ...

Keywords: abstraction, architecture, indirection, internet, scalable

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